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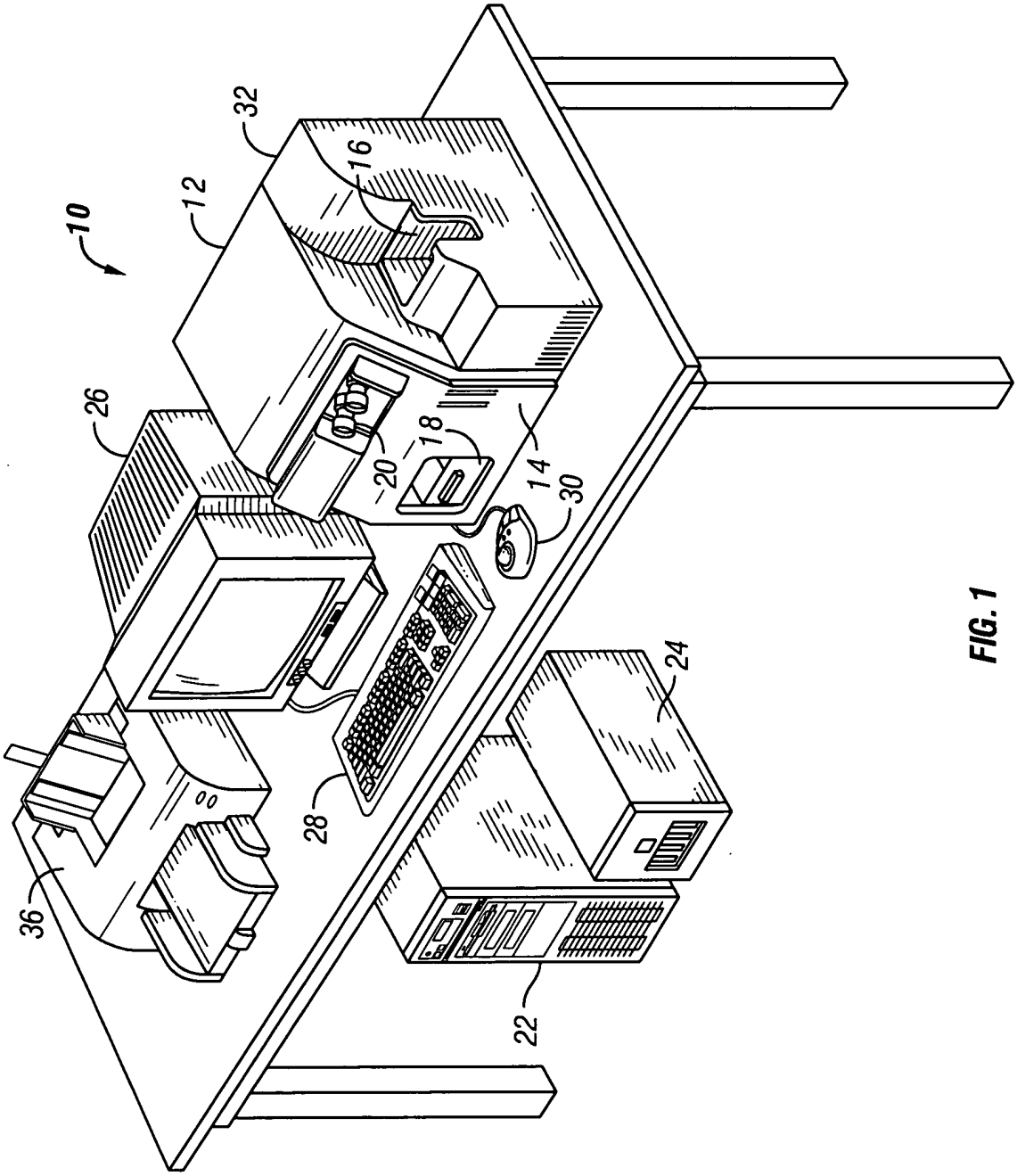

FIG. 1

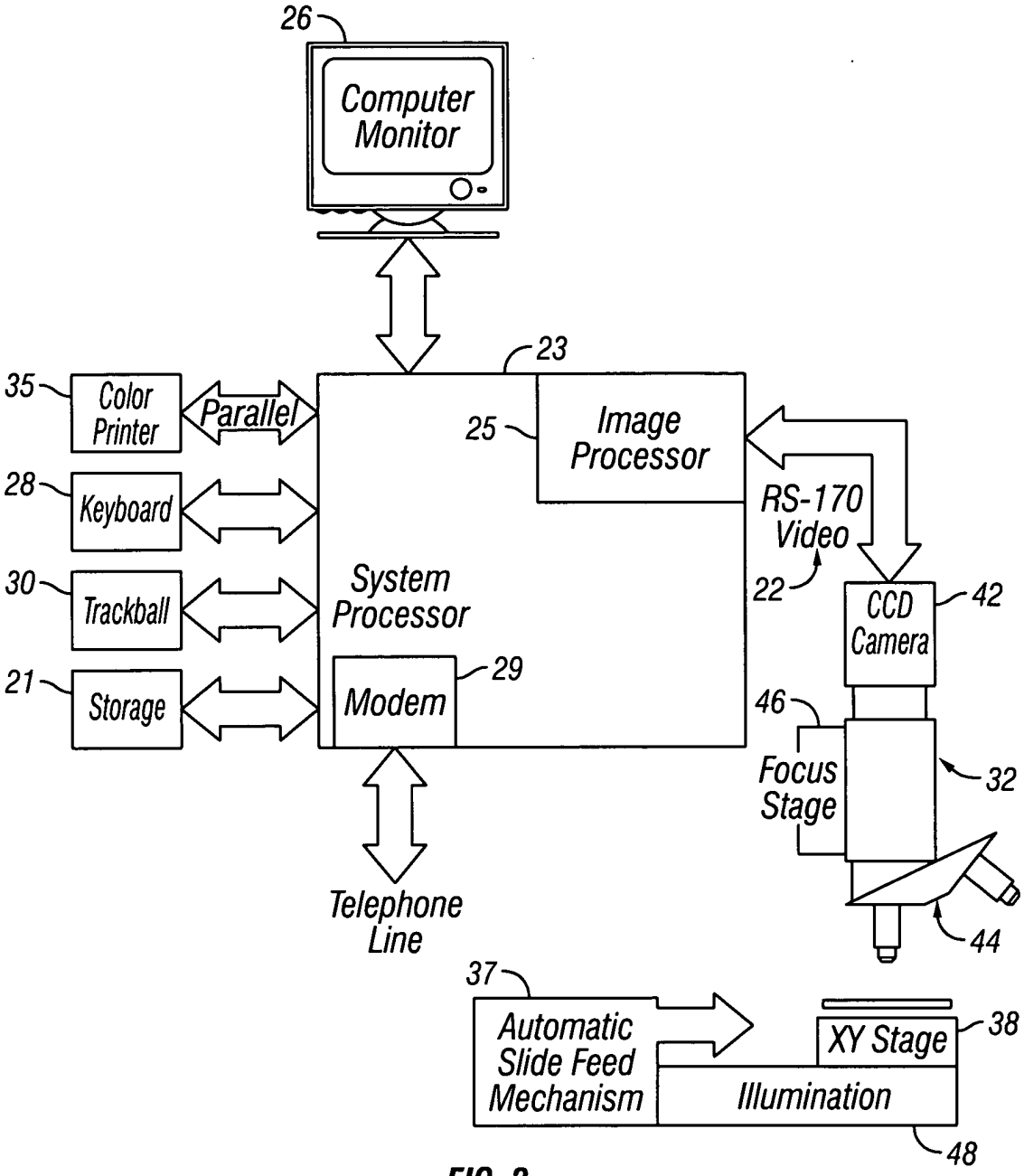
26
Computer Monitor
23
35
Color Printer
Parallel
25
Image Processor
28
Keyboard
RS-170 Video
30
Trackball
System Processor
22
CCD Camera
42
21
Storage
Modem
29
46
Focus Stage
32
Telephone Line
44
37
Automatic Slide Feed Mechanism
XY Stage
38
Illumination
48

FIG. 2

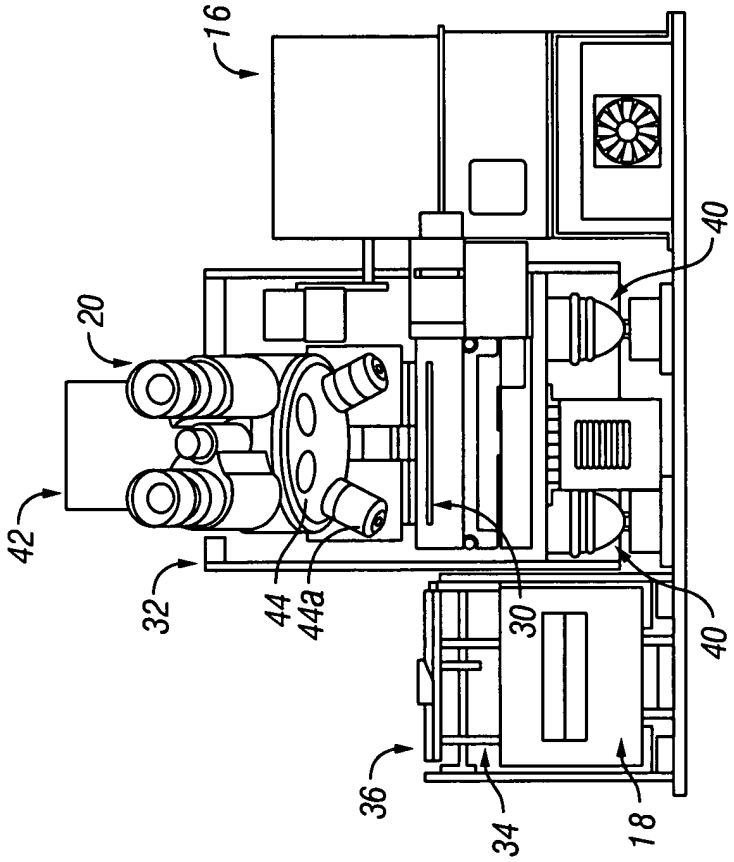

FIG. 3

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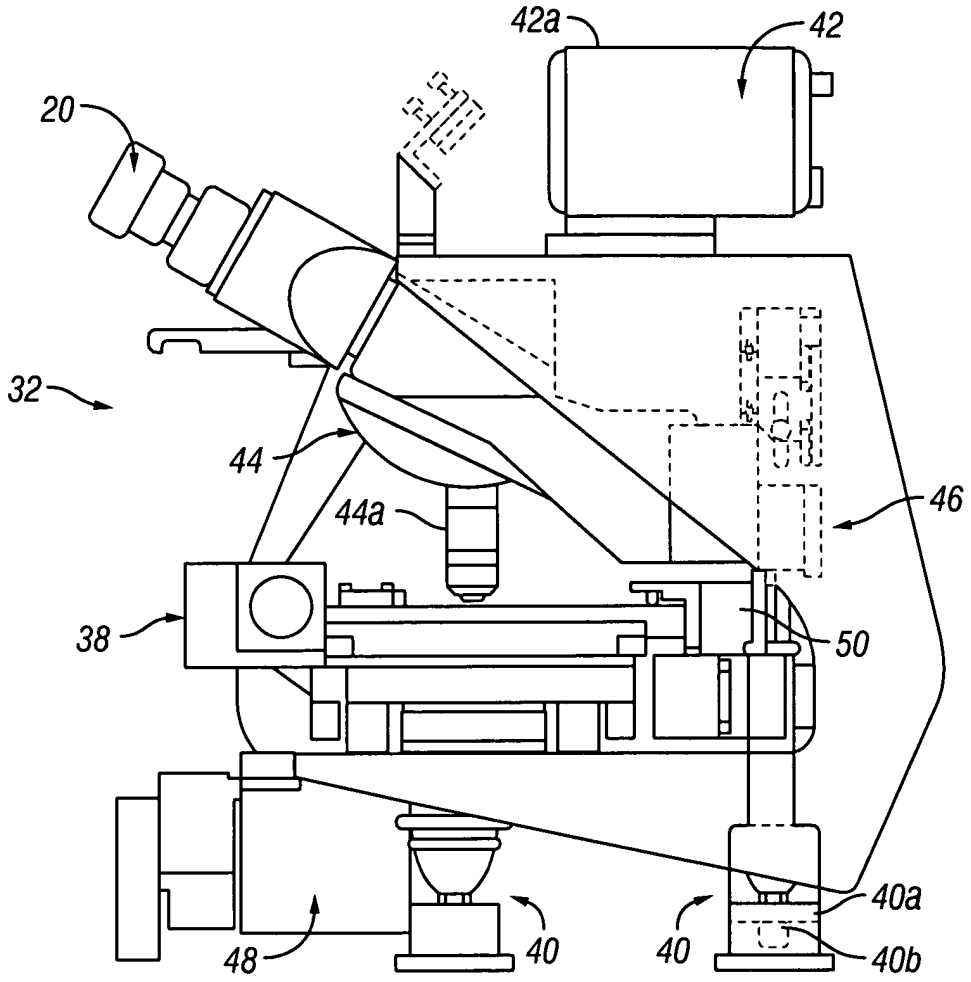

FIG. 4

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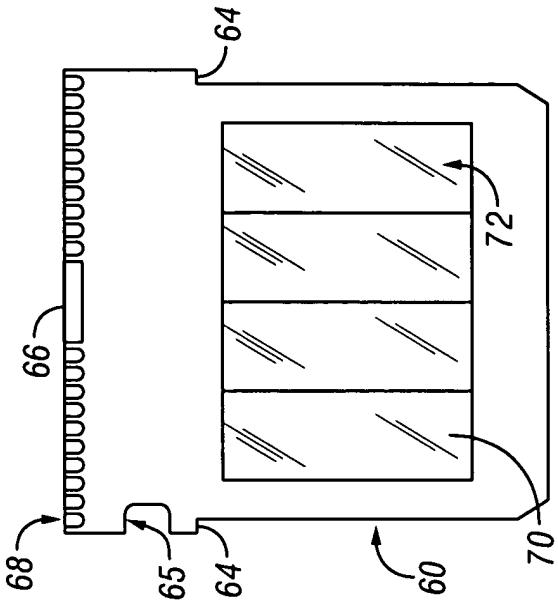

FIG. 5b

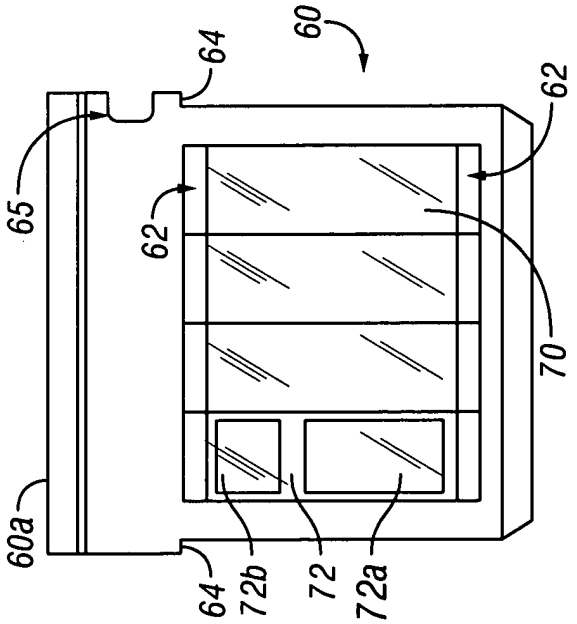

FIG. 5a

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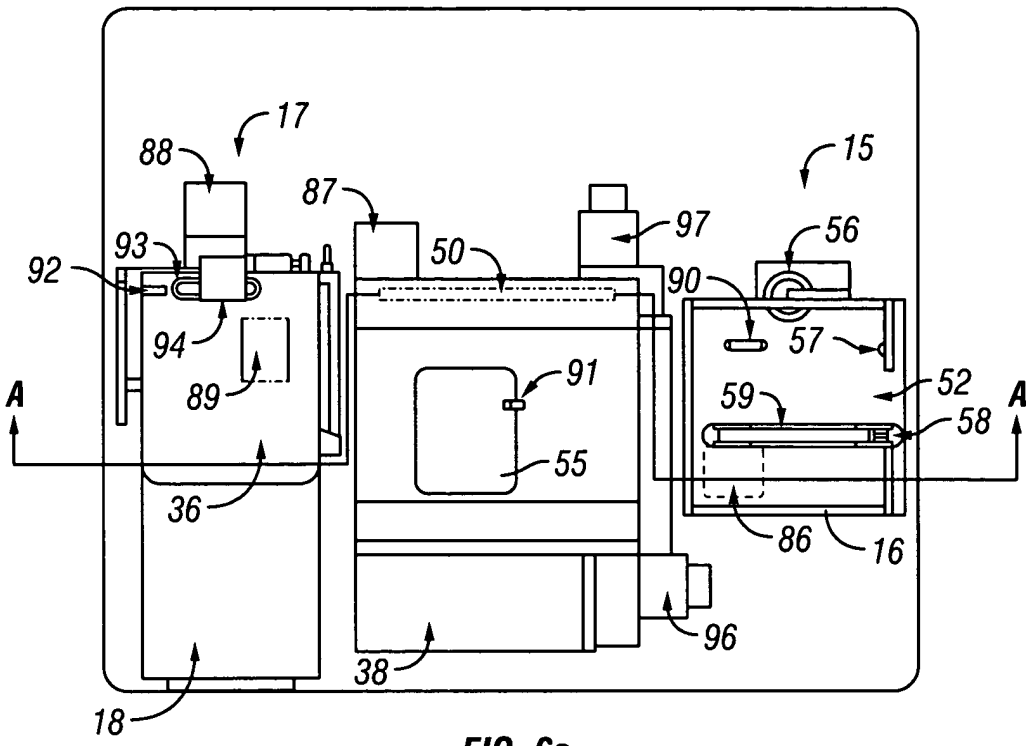

FIG. 6a

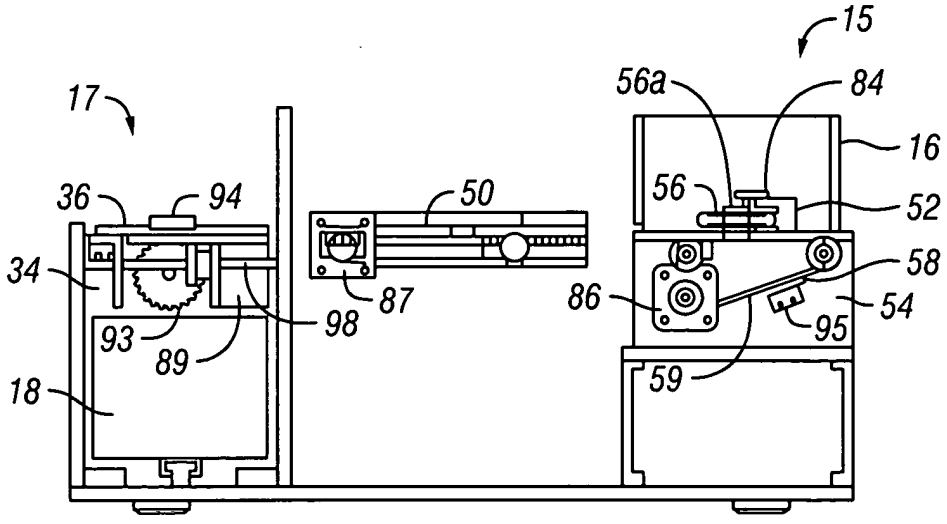

FIG.6b

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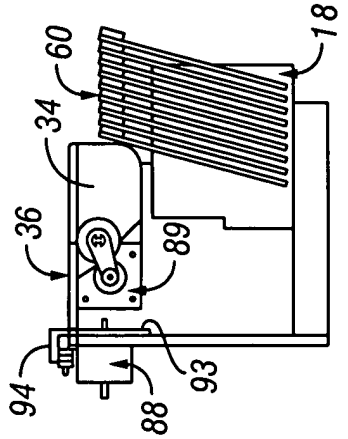

FIG. 7d

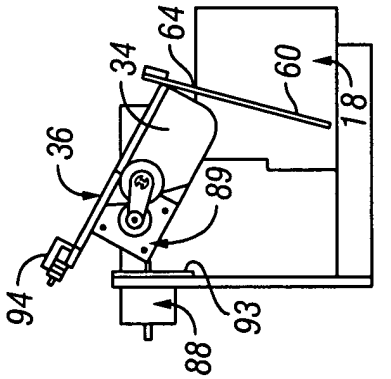

FIG. 7c

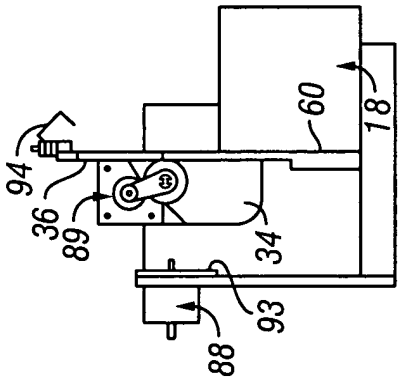

FIG. 7b

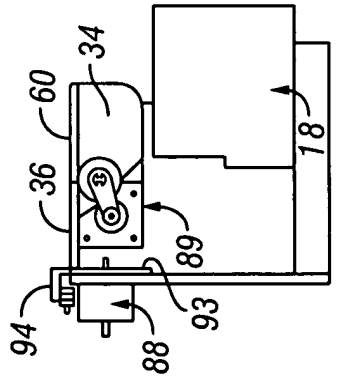

FIG. 7a

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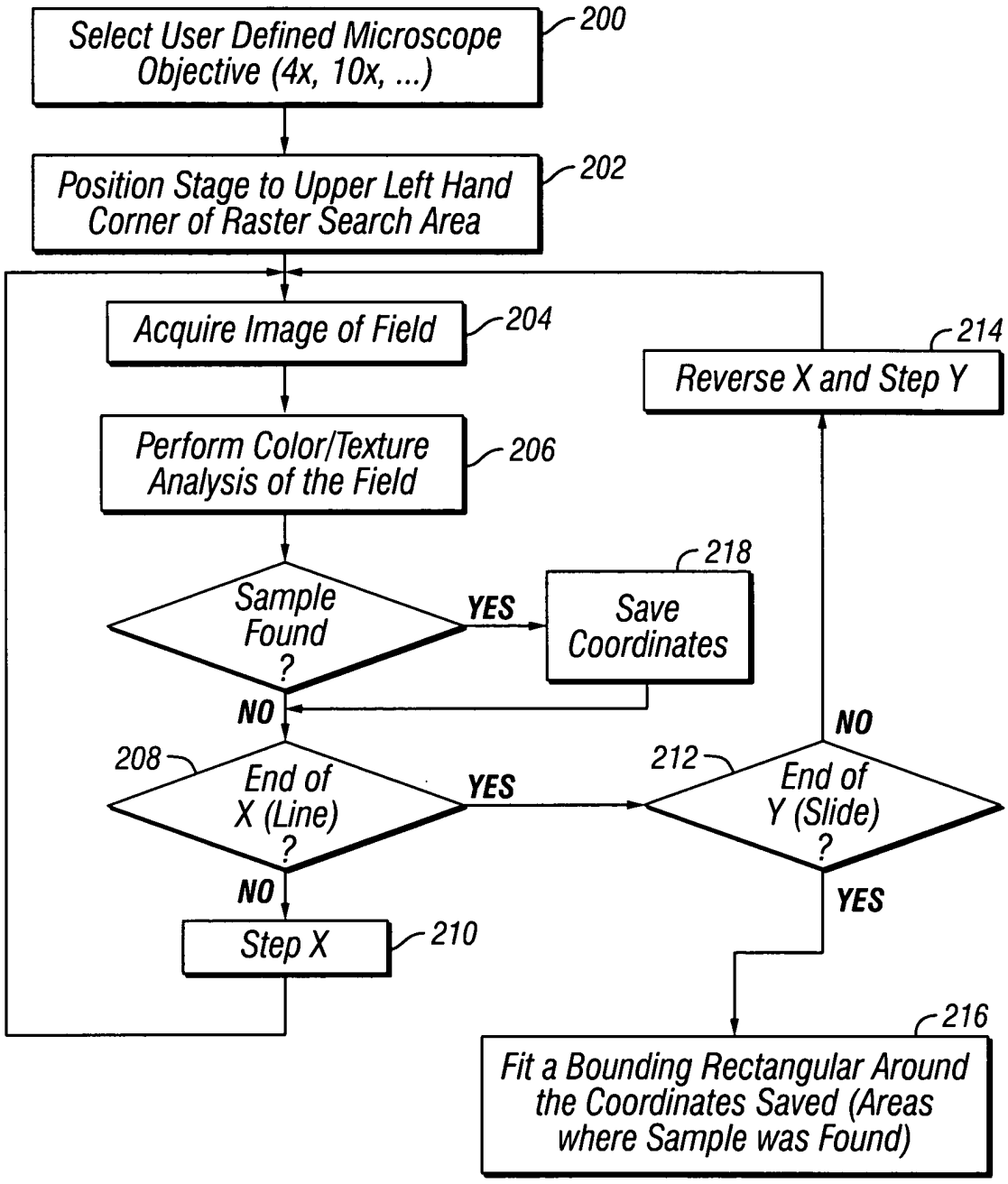
Select User Defined Microscope Objective (4x, 10x, ...)
200
Position Stage to Upper Left Hand Corner of Raster Search Area
202
Acquire Image of Field
204
Perform Color/Texture Analysis of the Field
206
Sample Found ?
YES
Save Coordinates
218
NO
208
End of X (Line) ?
YES
NO
Step X
210
212
End of Y (Slide) ?
NO
YES
214
Reverse X and Step Y
216
Fit a Bounding Rectangular Around the Coordinates Saved (Areas where Sample was Found)

FIG.8

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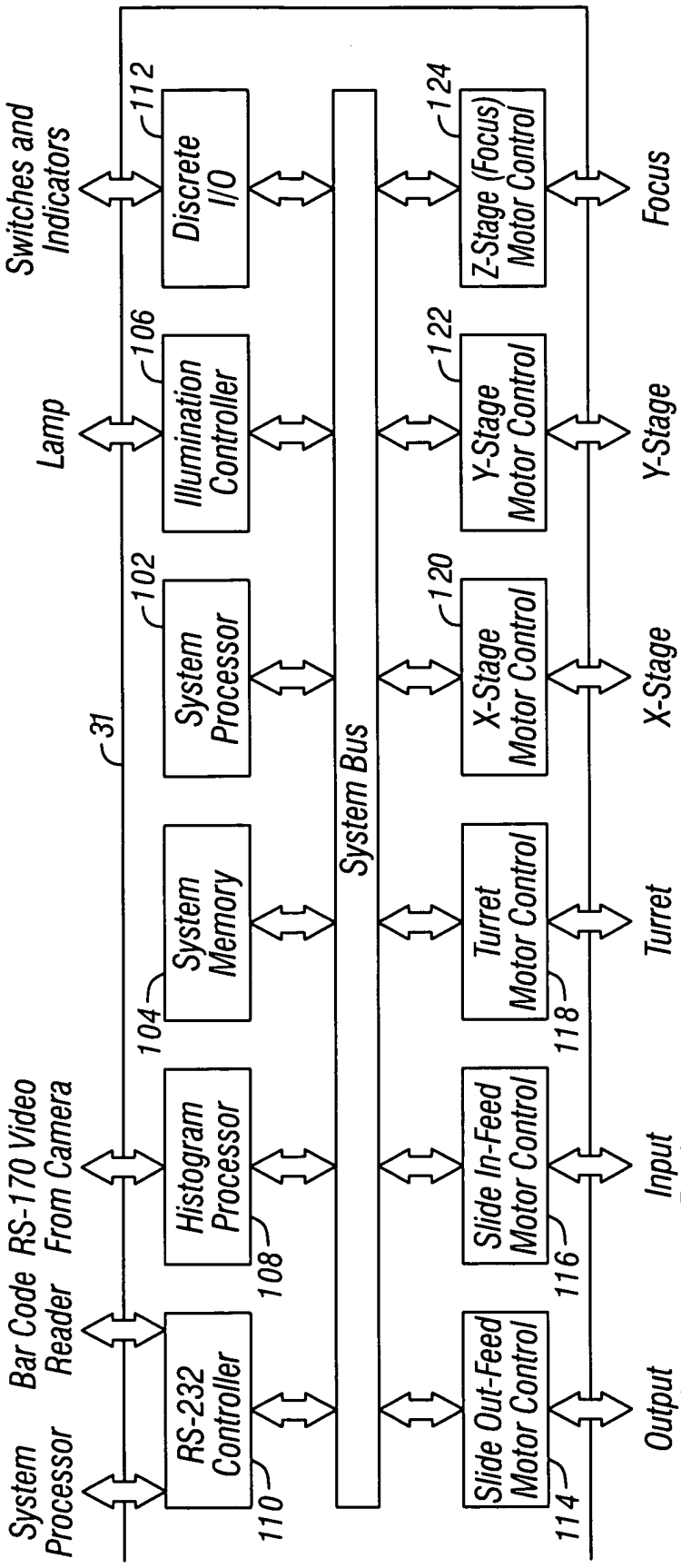
System Processor
Bar Code Reader
RS-170 Video From Camera
Switches and Indicators
Lamp
Focus
Y-Stage
X-Stage
Turret
Input Feeder
Output Feeder
RS-232 Controller
110
Histogram Processor
108
System Memory
104
31
System Processor
102
Illumination Controller
106
Discrete I/O
112
System Bus
Slide Out-Feed Motor Control
114
Slide In-Feed Motor Control
116
Turret Motor Control
118
X-Stage Motor Control
120
Y-Stage Motor Control
122
Z-Stage (Focus) Motor Control
124

FIG. 9

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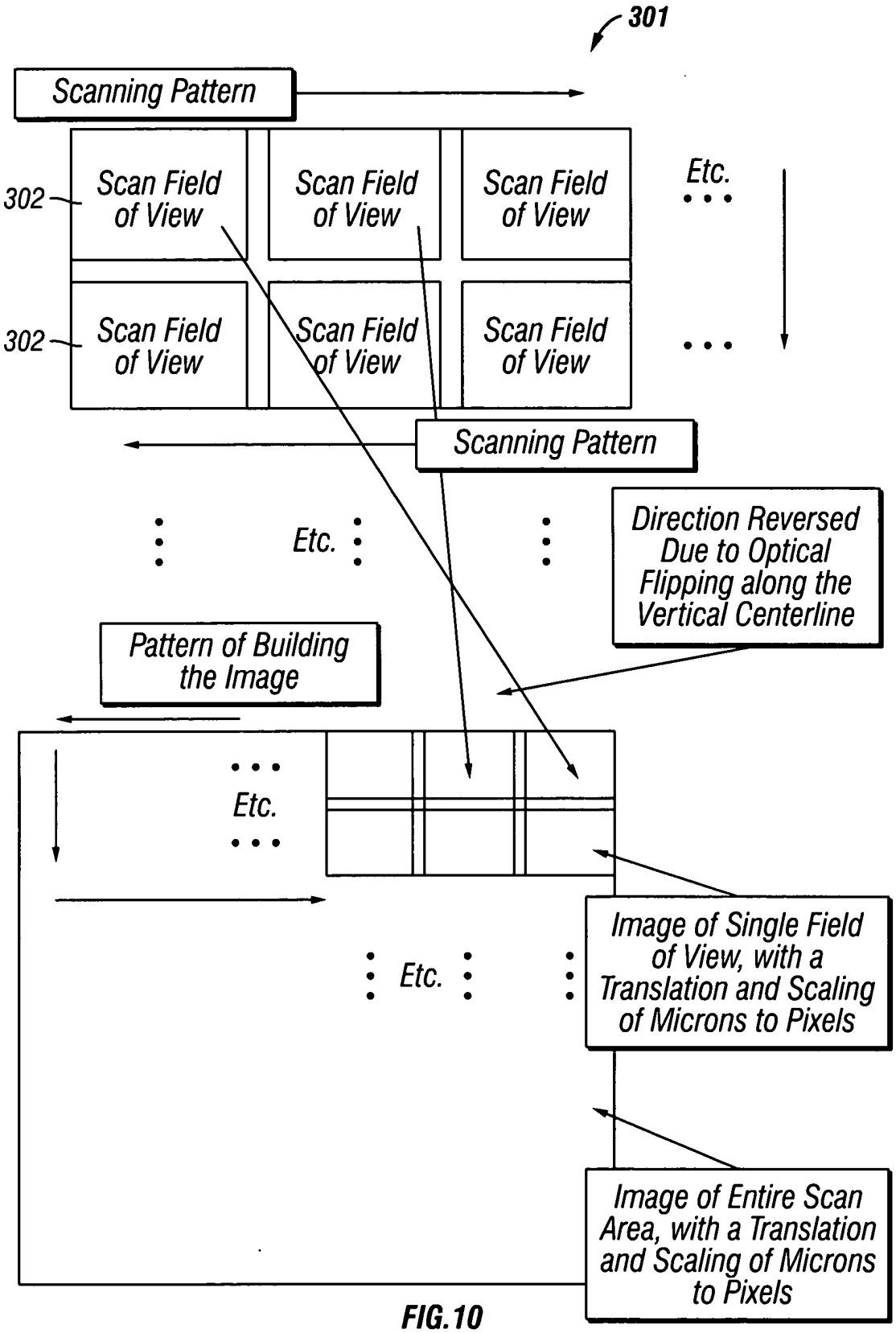
301
Scanning Pattern
302
Scan Field of View
Scan Field of View
Scan Field of View
Etc.
302
Scan Field of View
Scan Field of View
Scan Field of View
Scanning Pattern
Etc.
Direction Reversed Due to Optical Flipping along the Vertical Centerline
Pattern of Building the Image
Etc.
Etc.
Image of Single Field of View, with a Translation and Scaling of Microns to Pixels
Image of Entire Scan Area, with a Translation and Scaling of Microns to Pixels

FIG.10